

DATE MAILED:

This is a communication from the examiner in charge of this application.  
COMMISSIONER OF PATENTS AND TRADEMARKS

### NOTICE OF ALLOWABILITY

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance and Issue Fee Due or other appropriate communication will be mailed in due course. THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS. This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

☒ This communication is responsive to the amendment filed 10-27-03

☒ The allowed claim(s) is/are 1-3

☐ The drawings filed on \_\_\_\_\_ are acceptable as formal drawings.

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

☐ All ☐ Some\* ☐ None of the:

☐ Certified copies of the priority documents have been received.

☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.

☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_.

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE FOR SUBMITTING NEW FORMAL DRAWINGS, OR A SUBSTITUTE OATH OR DECLARATION.** ~~This three-month period for complying with the REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL is extendable under 37 CFR 1.126(e).~~

☐ Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL APPLICATION, PTO-152, which discloses that the oath or declaration is deficient. A SUBSTITUTE OATH OR DECLARATION IS REQUIRED.

☐ Applicant MUST submit NEW FORMAL DRAWINGS

☒ because the originally filed drawings were declared by applicant to be informal.

☐ including changes required by the Notice of Draftperson's Patent Drawing Review, PTO-948, attached hereto or to Paper No. \_\_\_\_\_.

☐ including changes required by the proposed drawing correction filed on \_\_\_\_\_, which has been approved by the examiner.

☐ including changes required by the attached Examiner's Amendment/Comment or in the Office action of Paper No. \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings.

☐ Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Any reply to this notice should include, in the upper right hand corner, the APPLICATION NUMBER (SERIES CODE/SERIAL NUMBER). If applicant has received a Notice of Allowance and Issue Fee Due, the ISSUE BATCH NUMBER and DATE of the NOTICE OF ALLOWANCE should also be included.

#### Attachment(s)

☐ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

☒ Interview Summary, PTO-413

☒ Examiner's Amendment/Comment

☐ Examiner's Comment Regarding Requirement for the Deposit of Biological Material

☒ Examiner's Statement of Reasons for Allowance

EXAMINER'S AMENDMENT

In accordance with a telephone conversation and a voice mail communication on November 20, 2003 with Mr. Soffen for the applicant, the following changes were agreed upon to place the case in condition for allowance.

On page 2 of the specification, line 4, the phrase "A specific embodiment" has been deleted and the phrase "--Specific embodiments--" has been substituted therefor. In line 5, "is" has been changed to "--are--". In line 6, "Fig. 1" has been deleted and the phrase "--Figures 1 and 2--" has been substituted therefor. In line 7, "shows" has been changed to "--show--". Further in line 7, "a" has been deleted and "system" has been changed to "--systems--". In line 17, "this" has been changed to "--the--" and the phrase "--of Fig. 1--" has been inserted after "embodiment".

The following is an examiner's statement of reasons for allowance:

Dybkjaer (U.S. Patent 6,224,789) discloses a process for the preparation of synthesis gas wherein natural gas is split into two streams 1 and 2 and mixed with 1superheated steam, streams 3 and 4, to obtain feed stream 5 (mixed from streams 1 and 3) to an all thermal reformer and feed stream 6 to a heat exchange reformer. In the autothermal reformer, feed stream 5 is reacted with a stream 7 of oxidant, and in the heat exchange reformer, feed stream 6 is also reacted. Heat for the endothermic

reactions in the heat exchange reformer-catalyst is provided by heat exchange between the exit gas 8 from the autothermal reformer and the outer wall of the catalyst containing annulus in the heat exchange reformer and also by heat exchange between the exit gas 9 from the catalyst bed in the heat exchange reformer and the inner wall of the catalyst containing annulus in the heat exchange reformer. After providing heat to the heat exchange reformer, the two product streams 8 and 9 are mixed to the final product stream 10. (See column 2, lines 7-32 of Dybkjaer.) There is no teaching, disclosure or suggestion in Dybkjaer that a catalyst in a first reaction space being arranged within a tubular reactor in indirect heat exchanging relationship with a heat exchanging medium be arranged by introducing the medium into tubular heat exchange space concentrically surrounding the tubular reactor with the first reaction space, and the catalyst in a second reaction space being arranged on shell side of a heat exchange space in indirect heat exchanging relationship with the heat exchanging medium, as required by applicant's claims. Nor would there be any motivation from the prior art to modify the process of Dybkjaer with such an arrangement.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

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fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wayne A. Langel whose telephone number is (703) 308-0248. The examiner can normally be reached on Monday through Friday from 8 A.M. to 3:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman, can be reached on (703) 308-3837. The fax phone number for this Group is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-2351.

WAL:cdc

November 20, 2003

*Wayne A. Langel*  
WAYNE A. LANGEL  
PRIMARY EXAMINER